

# Transition Committee Report

February 2016

thumbs up  for progress

**REBUILD HOUSTON**  
*better streets. better drainage. better future.*

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## Committee Membership

### Chair

David L. Collins, PE, RPLS, F. ASCE ..... Civil Engineer-FCM Engineers, PC

### Co-Chair

Santiago Castaneda, PE, Vice President ..... Omega Engineers, Inc.

### Members

Dario Arellano ..... Retired

Kathy Blueford Daniels, Community Leader ..... Super Neighborhoods

Julian Boddy, President ..... Total Construction Inspections

Linda Burger, MSSW, Chief Executive Officer ..... Jewish Family Services

Samuel Eaton, Ch.E., Executive Director ..... JNE Green Team

Cesar Guerra, Sr. Vice President ..... J. P. Morgan Chase

Sudhakar Kalaga, PE ..... KIT Professionals, Inc.

Dale Kornegay ..... Slack & Company, Contracting, Inc.

Lee Lennard, PE, President & CEO..... BGE | Brown & Gay Engineers, Inc.

Sonia Lopez ..... Houston Federation of Teachers

Sue Lovell ..... Former City of Houston Councilwoman

Rhonda Mitchell..... Aggregate Technologies, Inc.

Chris Powell, AIA, ..... Architech3

Orlando Teran, PE, RPLS, Chief Executive Officer ..... Teran Group

Lacy Wolf, Jr., Executive Director ..... International Association of Heat and Frost Insulators



## Executive Summary

The ReBuild Houston Transition Committee recommends in the strongest terms possible that ReBuild Houston is in need of a major change. In our deliberations as a committee, in our involvement as citizens in our community, and in presentations provided by the City Legal Department representatives, the ReBuild Houston Advisory Committee Chair, and the City Department of Public Works & Engineering (PWE), we conclude that the program is not working.

The ReBuild Houston program, approved by the voters in 2010, has tremendous potential. It is a great concept. Unfortunately, it has been poorly implemented. The primary cause for this poor implementation does not rest with PWE. PWE is charged with executing the directives and priorities established by the Administration. Clear directives and priorities for PWE were never established by the prior Administration.

As a pay-as-you-go street and drainage infrastructure funding source, ReBuild Houston is the most fiscally responsible program available. It replaces decades of debt financing for infrastructure that built up \$1.7 billion in bonded indebtedness. It replaces decades of neglect of our infrastructure, the backbone of our communities, commerce and economic prosperity. ReBuild Houston will provide two significant financial achievements simultaneously: (1) it will pay off \$1.7 billion in debt, and (2) it will create \$15 billion to \$20 billion in infrastructure investment over a 25-year period, or an average of \$600 million in new infrastructure per year. As currently structured, the drainage utility fee will generate \$3.65 billion assuming no growth, and the ad valorem tax will generate \$10.31 billion over the next 25 to 30 years.

At that rate of investment, the infrastructure of the City of Houston in 2040 will be rebuilt such that all infrastructure will, for the first time since the 1970s, operate within its serviceable life. This is the great opportunity and the great challenge made possible by the program. The great challenge is that the citizens of Houston will not and should not wait until 2040 to see significant progress. Citizens need to see significant progress now. For real progress to be made, the Mayor should consider using his leadership position and his vision of a better Houston to significantly alter the course of ReBuild Houston.



The mayor has a significant challenge and a tremendous opportunity. To achieve success, the Mayor should consider charting a new and radically different course for ReBuild Houston. A new paradigm should be established. Changing course will require PWE to develop new leadership, new organizational structures, new ways of doing business, new ways of engaging with the public, and a new culture of empowerment. Changing course will result in a public willing to support the program regardless of legal challenges and outcomes.

Changing the course of ReBuild Houston and creating a sustainable program of infrastructure renewal today and for generations to come will not be easy. But it must be done if we are to take our place among the world's greatest cities. Most of all, a major change to ReBuild will require leadership, the type of strong, collaborative leadership our Mayor possesses and should deliver.

The Transition Committee proposes the following six recommendations for the continuation of ReBuild Houston. Further explanation about each recommendation is provided in the next section of this report.

1. The Mayor should vigorously defend the dedicated funding source and the ad valorem tax lock box provisions of ReBuild Houston. The Mayor should explore all avenues to protect the funding sources of this program.
2. The Mayor should establish a Vision for ReBuild Houston, with specific goals, objectives and metrics for success. He should hold PWE accountable for implementing that Vision with a sense of urgency.
3. The City should engage, empower, educate, and convert skeptics into advocates with community leadership and with concerned citizens.
4. The Advisory Committee should be given authority over certain aspects of ReBuild Houston. Currently the Advisory Committee has no authority to engage PWE or hold PWE to any level of accountability.
5. PWE should restructure their approach in implementing ReBuild Houston. Currently, they are implementing the program as if it were a Capital Improvement Program, structured around a bond financing model. This is PWE's default methodology since no Vision or direction has been provided by the Administration.
6. PWE should revise the drainage design criteria. Currently, the criteria produces results that are counter-intuitive to the expectation of a reduction in flood risk. Strict adherence to the criteria often creates situations that increase flood risk.

## Issue Analysis



### Recommendation 1

The Mayor should vigorously defend the dedicated funding source and the ad valorem tax lock box provisions of ReBuild Houston. The Mayor should explore all avenues to protect the funding sources of this program.

**Question:** In the event that the City ultimately does not prevail in its litigation actions, how should the City proceed in ensuring a funding source for infrastructure of similar magnitude and sustainability?

**Answer:** The City should consider any and all means necessary to ensure a sustainable funding source. A number of options are presented below.

The current conservative funding forecast, as provided by Jennifer Olinick, City of Houston Finance Deputy Director in a memo to the Mayor dated November 16, 2015, shows the drainage utility fee providing approximately \$110 million on an annual basis and the 11.8 cents ad valorem (AV) tax providing \$50 million in FY 2016 and rapidly growing in subsequent years. In FY 2020, the AV provides \$90 million; in FY 2025, the AV provides \$216 million; in FY 2030, the AV provides \$360 million; in FY 2035, the AV provides \$475 million; and in FY 2040, the AV provides \$600 million. As currently structured, the drainage utility fee will generate \$3.65 billion assuming no growth, and the ad valorem tax will generate \$10.31 billion over the next 25 to 30 years.

At that rate of investment, an average of \$600 million per year, the infrastructure of the City of Houston in 2040 will be rebuilt such that all infrastructure will, for the first time since the 1970s, operate within its serviceable life.

**Option 1:** The Mayor could accept the Texas Supreme Court's decision that leaves the drainage utility fee in place and leaves it to the discretion of the Mayor whether or not to dedicate the ad valorem tax increment to street and drainage infrastructure. The Mayor could choose to commit the ad valorem tax increment to ReBuild Houston.

**Option 2:** Have voters pass a Charter Amendment reestablishing all ReBuild Houston program elements, namely the dedicated drainage fee, developer impact fee, third-party mobility funds, and the dedication of 11.8 cents in ad valorem tax toward street and drainage debt reduction and street and drainage infrastructure investment.

**Option 3:** Have City Council pass an ordinance reestablishing all ReBuild Houston program elements, namely the dedicated drainage fee, developer impact fee, third-party mobility funds, and the dedication of 11.8 cents in ad valorem tax toward street and drainage debt reduction and street and drainage infrastructure investment.

**Option 4:** Similar to Option 1, but modify the program based on what the City believes might be more palatable to voters. For example, the drainage utility fee might be reduced, which might be politically necessary, but would diminish the ability to accomplish the program's objective of getting all infrastructure to operate within its serviceable life.

**Option 5:** Discontinue ReBuild Houston and return to a debt-financing model. Historically, the City has been able to bond approximately \$500 million for street and drainage infrastructure every five years, or

\$100 million per year. If this option is followed, the City would have to generate an additional \$500 million per year on average to replicate the current ReBuild Houston program.

This could be accomplished by placing a proposition on the ballot for voters to decide if they would allow the revenue cap to be raised for ReBuild Houston funds. This would be similar to what was done with Proposition H in 2006 for police protection when \$90 million was allowed by voters. The additional revenue could then be leveraged through debt financing.

Another means could be that the \$500 million shortfall could be bridged by an increase in property tax or sales tax. Every penny increase in property tax would generate \$20 million in revenue. Every penny in sales tax would generate \$800 million in revenue. The sales tax is viewed as a progressive tax and would therefore likely have significant negative response in less affluent communities and would require legislative action. Either tax option could be sunset, once the program mission is achieved.

Which if any City departments would be involved in implementing this recommendation?	Office of the Mayor / City Council
Will implementing this recommendation require a change in the law? If so, please identify the law in question.	Yes – Option 5 – Sales Tax Option
Will implementing this recommendation require additional expenditure by the city? If so, please provide a rough cost estimate to the extent feasible.	No







## Recommendation 2

The Mayor should establish a Vision for ReBuild Houston, with specific goals, objectives and metrics for success. He should hold PWE accountable for implementing that Vision with a sense of urgency.

What is ReBuild Houston? When the Director of PWE was asked that question by the Transition Committee, he stated that ReBuild Houston was a funding mechanism. What is ReBuild Houston to the citizens of Houston? Is it a program to improve their streets and drainage, is it a funding mechanism, or is it something else entirely? The tag line for ReBuild Houston is “Better Streets/Better Drainage.” But what does “Better” mean? The Mayor should establish a clearly articulated Vision of what ReBuild Houston will accomplish.

The Director of PWE should possess several key attributes necessary to address the fundamental challenges associated with the City’s deficient drainage and road infrastructure. Some of these attributes should include technical knowledge, community relationship building, mentoring and training, leadership, and the ability to identify and manage change.

It is staggering to the Transition Committee that the life of a project from concept to completion is 8 to 10 years. That seems completely unacceptable, and yet that is the timeline and process PWE is following. PWE identifies high priority projects that slot in to the 6th year of a 5 plus 5 year Capital Improvement Program. On this timeline, an “expedited” project will have design starting in year 6, construction of the project occurring in year 7 and possibly year 8, and completion of the project occurring in year 8 or year 9. This is unacceptable as a delivery model for the citizens of Houston who expect urgency and progress sooner rather than later. By way of reference, Harris County uses a delivery model for major roadway and drainage infrastructure improvement projects that accomplishes the same result in 3 to 4 years.

**Question:** Is the ReBuild Houston formula striking the best balance between long-term improvements and near-term road repair fixes? If not, how might the balance be improved?

**Answer:** *The ReBuild Houston formula is not striking the best balance between long-term improvements and near-term road repair fixes. The balance should be improved by consideration of the following:*

1. The collection rate of the drainage utility fee should be maximized. Our understanding is that the total collection rate is in the mid 90 percent range. This rate should be improved to the high 90 percent range. Every percent increase adds approximately \$1 million per year in collections. This will provide more money for short term maintenance activities and long term projects.
2. The amount of short term maintenance spending is capped at 25 percent. Our understanding is that the current level of spending is around 15 percent. We see no reason why this area of spending should not be maximized.
3. The ReBuild program should be bifurcated in both the handling and prioritization of paving projects and the handling and prioritization of drainage projects. For paving projects, the infrastructure should be bifurcated into a short term priority: Upgrade and a long term priority: ReBuild. For drainage projects, the infrastructure should be bifurcated into Local and Regional priorities.
4. For the bifurcation of paving projects, the Mayor should establish a minimum standard of pavement condition (with public input – a topic discussed elsewhere in this document) and upgrade all pavement below that standard as an initial and immediate priority. This action should be



accomplished within the next 4 years. The current CIP should be put on hold, or at a minimum current CIP projects should only be upgraded (not “ReBuilt”). This action would buy time and buy the good will of the public as the more expensive ReBuild solutions are devised over a longer period of time, while upgrades are occurring immediately. This strategy would better match the available funding stream, upgrading more with less early by extending the service life of our worst infrastructure 10 to 15 years while the ReBuild funding builds over time. Upgrades would generally include full width pavement overlays, full depth repairs as needed, panel replacements, and storm sewer inlet replacements that add drainage capacity.

5. For drainage projects, local priorities can be upgraded and rebuilt as part of the pavement project priority discussed in the paragraph above. Design the local drainage (storm sewers, roadside ditches and inlets) to handle 2-year storm events. Check that extreme storm events are provided an avenue out of neighborhoods prior to structural flooding. Mitigation will not be necessary when only improving local drainage to 2-year capacity, or any capacity less than the capacity of the receiving stream or bayou. Regional priorities will take much longer to formulate and can be rebuilt when regional partners (Harris County Flood Control and the Federal Government) use their financial resources on flood damage reduction projects along streams, bayous and tributaries. These regional solutions will unfortunately take decades to accomplish before we realize the benefits. In the meantime, the City can vastly improve local drainage so that frequent storms of relatively low intensity can be handled effectively by the City’s rebuilt drainage infrastructure.

“Life extension projects such as overlays, curb replacement, and storm sewer inlet reconstruction are typically lower in cost compared to full reconstruction and will allow for funding a greater number of projects on an annual basis. There is the additional benefit of maximizing the serviceable life of the existing infrastructure.”

*ACEC Houston*

**Question:** Is the ReBuild Houston worst-first formula striking the best balance of repairs among different geographic areas across the City? If not, how might that balance be improved? Should worst-first be defined differently?

**Answer:** *The worst-first formula is not striking the best balance of repairs among different geographic areas across the City. The balance should be improved as discussed herein. Worst-first should be defined differently as described herein.*

A cursory review of PWE’s Intensity Map indicates an imbalance in prioritization of need areas. The west and southwest sides of the City show a disproportionate share of the need; whereas, the historically underserved north, east, and south sides of the City do not appear to be properly represented. This is especially concerning, given the fact that the overwhelming support for passage of Proposition 1 in 2010 came from citizens in the historically underserved areas. A re-allocation strategy should be developed to more adequately spread ReBuild Houston projects in the north, east, and south sides of the City.

The current “worst first” methodology does not consider geographic location. Theoretically, all of the highest scoring need areas could be located in one part of the City. The balance should be improved by significantly de-emphasizing the SWEET model in the Need Area identification process. Instead, PWE should create a map of where they believe the worst pavement infrastructure in the City exists. This information should be taken to the public for their input and buy-in (a topic discussed elsewhere in this document). By defining worst-first in simple pavement condition terms, the City can connect with citizens (unlike the current process of explaining the intricacies of weighting factors in the SWEET model where the City immediately loses the understanding of the citizens).

The City should balance the spread of projects across the City by taking the “worst first” from each council district, super neighborhood, or other geographic area to meet the desire for balance in neighborhoods and communities across the City. The City should spread more projects more broadly across the City. Currently, projects take 8 to 10 years from concept to completion and cost around \$10 million each. If \$100 million is available, this creates 10 projects per year. By way of illustration, the City would likely be better served by creating one hundred \$1 million projects for that same \$100 million spread across the City that take 1 to 2 years from concept to completion. These would be “Upgrade” projects, not “ReBuild” projects as discussed above.

The Policy Background and Framing Document states “ReBuild Houston has attempted to establish an objective standard – called “worst first” to determine which projects to prioritize.” This statement is not entirely accurate. “Worst first” does not determine which projects to prioritize. Instead, “worst first” takes the pavement condition rating, drainage infrastructure assessment and a variety of other factors to create a ranking of “need areas.” It is these “need areas,” not projects, that are ranked “worst first.” Pre-engineering then determines infrastructure solutions to address the needs in a particular area. The infrastructure solutions receive a calculated cost and associated benefit. The benefit calculation is based on property density, not population density. This methodology is overly complicated, not easily or well explained or understood, and does not appear to produce objectives consistent with “worst first.”



The PWE benefit calculation fails to include many factors that should weigh in any prioritization such as the ability to meet community needs, the socio-economic value, economic revitalization, neighborhood integrity, and local political preference to name but a few.

Which if any city departments would be involved in implementing this recommendation?	PWE
Will implementing this recommendation require a change in the law? If so, please identify the law in question.	No
Will implementing this recommendation require additional expenditure by the city? If so, please provide a rough cost estimate to the extent feasible.	No



### Recommendation 3

The City should engage, educate, and empower citizens to improve the community's perception of ReBuild Houston in general and PWE specifically.

**Question:** How can ReBuild Houston increase public awareness of its successes?

**Answer:** Increase and prioritize public awareness of its successes by creating a Department of Public Relations for ReBuild Houston.

A robust public relations program should be implemented by the City. This program should be administered by public relations professionals, not engineers. Ideally, this communication arm of the City would report directly to the Mayor so that accountability and independence from PWE are achieved. This would provide PWE the focus needed to implement ReBuild Houston without the added task of having to “tell the story.” Leave the “telling of the story” to communications professionals.

**Question:** Does the opportunity exist to implement a formal communications outreach structure for the program?

**Answer:** Implement a formal communication outreach structure through the Department of Public Relations.

The Department of Public Relations will focus on public relations, public engagement, public outreach, branding, customer service, information sharing, score carding progress and established metrics, and serve as the liaison between the public and PWE.

PWE does not seem to recognize that there is an image problem. The image in the community is that both ReBuild Houston and PWE is failing. Some think the funds are a “rain tax” or a “flood tax.” A comprehensive communication plan coupled with other recommendations contained herein, will rebrand ReBuild Houston and tell the story of the good work that is accomplished because of the Pay as You Go system.

**Question:** Does the opportunity exist to more effectively promote successfully undertaken projects?

**Answer:** More effectively promote successfully undertaken projects by utilizing public relations professionals.

Currently, there is a lack of presence and progress of ReBuild Houston in the community. To counter this seeming lack of presence and progress, all aspects of ReBuild Houston should be branded with the Thumbs Up logo. All ReBuild Houston contractors should be required to post the logo on all safety equipment, vests, materials, sites, etc.

Some ideas to get the word out about ReBuild Houston include the following:

- A “Thumbs Up” moment each morning on local news programs letting viewers know where projects are happening throughout the city.
- A social media campaign where contractors and community members use short video clips to share up-to-date information about progress.



- Utilize flyers on doors, mail, etc. to communicate.
- Create a targeted message on each water bill based on zip codes or other sort criteria that gives ReBuild Houston updates for the area.
- Create an Outcome Report Card that includes community input.
- Add an additional extension on 311 for ReBuild calls to reduce wait times.

“With all of its positive attributes ReBuild Houston should enjoy a higher level of public approval. The Public Works and Engineering Department is staffed with very capable professionals skilled at implementing capital improvement programs. Although PWE has recently made significant strides in their public outreach efforts, retaining a professional public relations firm will greatly enhance the messaging of the ReBuild Houston program and provide more easily comprehensible information to the public which should increase the public’s understanding of the program.”

*ACEC Houston*

Communication to households, business and neighborhoods impacted by ReBuild Houston should occur before, during and after each project. At project completion, a report card should be provided to impacted citizens and incorporated into final punch list items for the contractor to address. It was noted by PWE in their presentation to the Transition Committee that they do not have outcome metrics that demonstrate the success (or lack thereof) of ReBuild Houston completed projects.

Which if any city departments would be involved in implementing this recommendation?	PWE and new Department of Public Relations
Will implementing this recommendation require a change in the law? If so, please identify the law in question.	No
Will implementing this recommendation require additional expenditure by the city? If so, please provide a rough cost estimate to the extent feasible.	Yes. A Public Relations Department might require six professionals of varying experience from senior to junior, two or three public relations on-call contracts to facilitate community outreach and meetings, publication of collateral material, and messaging through various media. Estimated cost between 1 percent and 2 percent of ReBuild Houston funds (\$1 million to \$2 million per year). Some of these functions are already done to some degree by PWE, so there is some cost already incurred.



### Recommendation 4

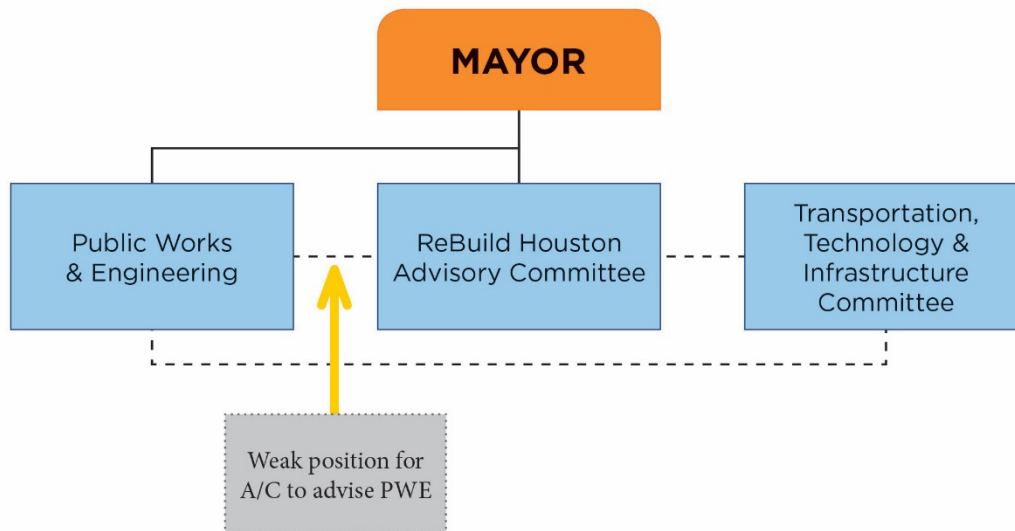
The Advisory Committee (A/C) should be given authority over certain aspects of ReBuild Houston. Currently the Advisory Committee has no authority to engage PWE or hold PWE to any level of accountability.

The Mayor should change the organizational reporting structure of the A/C. Currently PWE and the A/C each report directly to the Mayor. The A/C is in a weak position relative to PWE in that PWE is not bound to any actions, directives or requests of the A/C. The A/C should continue to report to the Mayor, but the A/C should occupy a location in the organization between the Mayor and PWE. This would strengthen the A/C position relative to PWE. The A/C would advise, review and consent to PWE recommendations. In practical terms, the Mayor would look for concurrence from the A/C on issues related to the vision, goals, objectives, and metrics for success of PWE established by the Mayor.

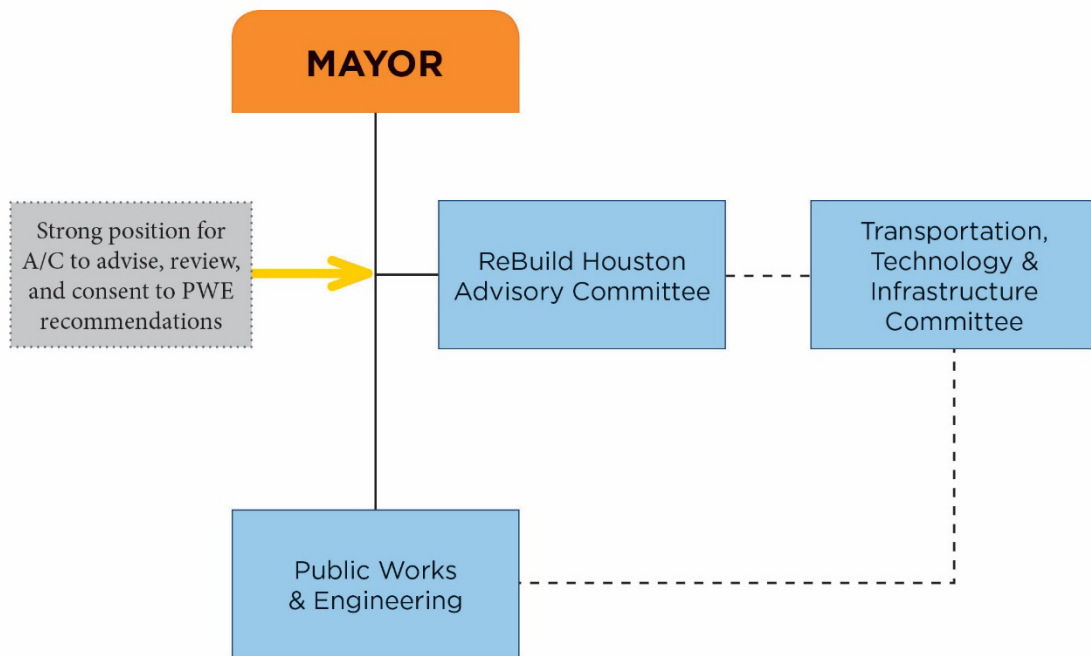
The A/C membership should reflect a matrix of beneficial attributes in its membership. Representation from a diverse cross-section of the community is understood. Additionally, members should be willing and available to dedicate a fair amount of time to their service. Certain members may represent super neighborhoods, or the president of the Super Neighborhood alliance might serve as a member. Certain members might have management, financial, engineering or labor backgrounds.

The A/C should review and consent on various elements of ReBuild Houston including well-established metrics of financial management (collections, schedule of expenditures), project management (progress and conformance to schedule for specific planning, design and construction projects), community feedback on performance, and project selection for both Upgrade and ReBuild.

### Current Organization



## Proposed Organization



Which if any city departments would be involved in implementing this recommendation?	Office of the Mayor and PWE
Will implementing this recommendation require a change in the law? If so, please identify the law in question.	No
Will implementing this recommendation require additional expenditure by the city? If so, please provide a rough cost estimate to the extent feasible.	No





### Recommendation 5

PWE should restructure their approach in implementing ReBuild Houston. Currently, they implement the program as if it were a Capital Improvement Program, structured around a bond financing model. This is PWE's default methodology since no Vision or direction has been provided by the Mayor.

PWE should deliver the ReBuild Program with a sense of mission and urgency. The current methodology is cumbersome, bureaucratic, expensive, and tedious. Everything about the delivery model should be questioned, evaluated, and changed to meet the demands of ReBuild. The PWE delivery model should be benchmarked against the best-in-class for the industry and staff should be held accountable for delivering results on-time and within budget to their satisfied clients (the citizens of Houston). Reducing the time to deliver expedited projects from 8 years to 3 years would be a start. Fully engaging the local workforce in all aspects of the program should be a priority. The Hire Houston First ordinance should be revisited with metrics established to ensure its effectiveness in utilizing local talent and labor to the fullest extent possible.

Which, if any, city departments would be involved in implementing this recommendation?	PWE
Will implementing this recommendation require a change in the law? If so, please identify the law in question.	No, but may require a legal opinion regarding the 1983 CIP ordinance to provide clear direction to PWE of the way forward.
Will implementing this recommendation require additional expenditure by the city? If so, please provide a rough cost estimate to the extent feasible.	No



## Recommendation 6

PWE should revise the drainage design criteria. Currently, the criteria produces results that are counter-intuitive to the expectation of a reduction in flood risk. Strict adherence to the criteria often creates situations of increased flood risk.

The current criteria encourages streets to be lowered in elevation resulting in more frequent flooding of roadways, at deeper flood depths, for longer durations. Extreme caution and judgment should be applied when lowering or raising streets. A thorough understanding of topography, adjacent finish floor elevations, and tailwater conditions is necessary to design a project that effectively reduces flood risk. The current criteria produces a flawed and false sense of security by supposing a 100-year storm event can be conveyed within street right-of-way. This criteria can typically only be achieved when a false assumption is made that during the storm event, the downstream bayou, stream, tributary or open channel is basically empty. This is not a likely occurrence. When it rains hard, there isn't just water in the streets, there is water in the bayous. Unfortunately, this criteria and the resulting misguided assumptions and analysis result in misguided solutions that often include lowering streets (so that they become more flood prone), oversizing storm sewers (so that they are expensive holding tanks), and converting otherwise taxable land into non-taxable public detention basins (reducing revenue and increasing maintenance costs).

“Current drainage design criteria applied to ReBuild Houston projects requires maintaining the 100-year storm within the street ROW. In many cases this criteria results in extraordinarily expensive storm sewer designs that in reality do not provide the desired level of service due to the limited capacity of the receiving stream. The design of drainage systems should account for these limitations of the existing regional network of channels.”

*ACEC Houston*

“Current CIP projects readily rely on site-specific detention mitigation practices that many times require substantial upsizing of the storm sewer system for in-line detention. The effectiveness of these designs is questionable due to the limited capacity of the receiving streams. Although regional solutions can require additional time and upfront costs, a dedicated regional drainage program for service areas would be more cost-efficient in the long-term and better serve the public in reducing flooding.”

*ACEC Houston*

The City faces (1) a major philosophical dilemma, (2) a major financial challenge, and (3) a major public perception problem in implementation of the current drainage criteria.

1. **The major philosophical dilemma:** In practical terms, the City cannot and will not be able to provide 100-year storm flood protection unless major upgrades are provided to the receiving bayous, streams and tributaries that serve City storm sewer and open ditch drainage facilities. These receiving systems currently have on average 10-year storm flood protection. Unless these systems are expanded to provide 100-year storm capacity, water from City streets and drainage systems will not have a place to go, and flood levels in these receiving systems will not decrease.

2. **The major financial challenge:** Under its current direction, what will ReBuild look like 25 years and \$15 to \$20 billion later? If the current criteria is followed, a criteria that requires 100-year storm systems and 100-year mitigation, funding will likely run out well before the City infrastructure is upgraded or rebuilt to function within its serviceable life. Spending a disproportionate share of ReBuild Houston dollars on 100-year systems that drain to regional 10-year systems is a major financial drain of a finite resource with limited or no regional benefit.
3. **The major public perception problem:** Given the realities of an inadequate drainage network in the receiving bayous, streams and tributaries, the public's confidence in the program could suffer after a ReBuild Houston project is completed. For example, an old open ditch asphalt street could have been replaced with concrete curb and gutter streets. The old street was higher than adjacent natural ground. The old street was removed and the new curb and gutter street was cut about 2 feet lower than the old street. New 100-year storm sewers were installed under the street and tied into a 2-year outfall that discharged to a channel with 5-year capacity. When a regional rain event fell on the area, the street filled with 2 feet of water. This occurred because the regional drainage, the County or Federal responsibility, was not improved concurrent with ReBuild Houston. In light of the prolonged flooding, the community's perception of the good of ReBuild Houston is diminished.

PWE should revise the current drainage design criteria in light of current realities so that ReBuild Houston projects function as intended during design rain events. The criteria should be revised to foster prudent engineering judgment whenever contemplating lowering roadway elevations to address flooding. The criteria should be revised to address the fact that most City storm sewer and roadside ditch systems drain to channels, tributaries and bayous that are severely constrained in their capacity to handle major storm events. Changing the current drainage design criteria will result in a better allocation and use of ReBuild Houston's finite financial resources to the benefit of citizens across the City.

Which if any city departments would be involved in implementing this recommendation?	PWE
Will implementing this recommendation require a change in the law? If so, please identify the law in question.	No. It will require a change in the Infrastructure Design Manual, Chapter 9, and associated documents.
Will implementing this recommendation require additional expenditure by the city? If so, please provide a rough cost estimate to the extent feasible.	No. This recommendation will save the City tens of millions of dollars, if not hundreds of millions of dollars over the life of the program.



## Additional Issues

A summary of additional Transition Committee observations and comments is provided below.

1. The Mayor should consider creating a task force with a broad coalition of City and County members to focus on the financial impact of flood damage on the City and County. The task force should focus on obtaining millions of State and Federal dollars, which should flow to Houston as a result of the Memorial and Halloween Day Floods of 2015. The flooding challenges in Houston can only be solved by a broad coalition working together to maximize funds that other communities were able to obtain in their times of distress, i.e. Hurricane Sandy, Katrina, etc.
2. Project costs should be better estimated through the pre-engineering process.
3. The time involved in delivering various projects should be a factor in prioritization. Projects that can be implemented sooner should be placed ahead of equivalent projects with longer lead times.
4. PWE should streamline planning and programming. Pre-engineering and preliminary engineering should be combined and provided by the same consulting team.
5. PWE should prioritize and demand use of local labor in all aspects of the program.
6. PWE should look for low cost solutions to problems, such as ditch and pipe desilting and traffic signal synchronization.
7. PWE should benchmark their performance against other best practice cities throughout the country and be held accountable those metrics. The metrics should drive decision making (time is money).
8. PWE should implement best practices for repair methods.
9. Project selection inside floodplains versus outside of floodplains should have vastly different anticipated outcomes. Drainage projects inside FEMA floodplains along major drainage arteries will have limited if any positive impact to neighborhoods.
10. Project selection process should be much more transparent.
11. Expand collaboration with other governmental entities that can bring money to the table. HCFCD and USACE have limited funding at present.
12. Monitor success of projects and track realized benefits.



13. Provide the public with a demonstrated understanding of open ditch drainage.
14. Does the SWEET model prioritize open ditch drainage neighborhoods on equal footing with storm sewer neighborhoods? A cursory review of PWE's intensity map seems to show a disproportionate amount of weighting in storm sewer areas on the west and southwest side of the City compared to the open ditch neighborhoods on the north, south and east sides of the City.
15. Revise and upgrade the specifications used by PWE for design and construction of paving and overlays. For example, use the latest technology in asphalt and its quality control/testing. Evaluate pavement design to determine if transverse joints in concrete paving can be eliminated.
16. Do not acquire more rights-of-way from TxDOT. If these remain in TxDOT's jurisdiction, then TxDOT will be responsible for upgrading and reconstructing paving and drainage, not the City.

## Resources

### Bibliography

Herrera, Gilbert A., Memorandum to Mayor Annise D. Parker-ReBuild Houston Oversight Committee, October 31, 2013

ReBuild Houston Advisory Committee Members Memorandum (FY 2015 CIP Amendments to Mayor Annise D. Parker, July 2, 2014)

ReBuild Houston Advisory Committee Members letter update to Mayor Annise D. Parker, December 14, 2015

ACEC Houston's Recommendations for Improving the ReBuild Houston Program, Christina Lindsay, Executive Director, February 12, 2016

### Names, Titles, and Dates of Presentation of In-Person Presenters

Presentation to ReBuild Houston Transition Committee, by Gilbert A. Herrera, Chairman, ReBuild Houston Advisory Committee, January 28, 2016.

What is ReBuild Houston, presented by City of Houston Legal Department by Judith L. Ramsey, Chief, General Litigation Section, January 28, 2016.

Transition Team-ReBuild Houston presentation by Public Works and Engineering, by Dale Ruddick, PE, Director of Public Works and Engineering, and Carol Haddock, PE, Senior Assistant Director, February 4, 2016

ReBuild Houston Committee comments and Stated Goals and Recommendations